APPENDIX A

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TENNESSEE
KNOXVILLE DIVISION

LEWIS COSBY, KENNETH R. MARTIN, as beneficiary of the Kenneth Ray Martin Roth IRA, and MARTIN WEAKLEY on behalf of themselves and all others similarly situated, Plaintiffs, v. KPMG LLP, Defendant.	)))))))))) No.: 3:16-CV-121-TAV-DCP))))))

Expert Rebuttal Report of Dr. Mukarram Attari

July 19, 2019

Table of Contents

I. Assignment and Summary of Opinions

1. Three expert reports have been filed by Mr. Coffman at the class certification stage of this litigation. On March 15, 2019, Mr. Coffman filed his original expert report that contained an analysis of the efficiency of the market for Miller Energy's Common Stock, Series C Preferred Stock and Series D Preferred Stock.[1] Counsel for KPMG pointed out a number of factual and numerical errors in the analysis during Mr. Coffman's deposition on April 12, 2019,[2] which led to Mr. Coffman filing a report correcting the errors that he had been made aware of on April 19, 2019 (the "Corrected Coffman Report").[3] In my report dated May 13, 2019 (the "Attari Report"),[4] I note that the Corrected Coffman Report contains additional errors that cause Mr. Coffman's analysis to be unreliable. Mr. Coffman concedes that his analysis in the Corrected Coffman Report contains certain errors in a rebuttal report dated June 14, 2019 (the "Coffman Rebuttal Report").[5] However, in the Coffman Rebuttal Report, Mr. Coffman provides only summary exhibits with limited information on the impact of the errors. He has not attempted to correct the errors in his Corrected Coffman Report, and he has not provided a corrected event study or a set of corrected exhibits reflecting any such corrected event studies in the Coffman Rebuttal Report.

2. I have been asked by counsel to review the back-up material for the Coffman Rebuttal Report, provided by Mr. Coffman, and to document the effect of the errors on Mr. Coffman's analysis. I have not been asked to opine on the other opinions expressed in the Coffman Rebuttal Report and I have not done so here.

3. The errors in the Corrected Coffman Report are particularly relevant to Mr. Coffman's analysis of the cause-and-effect relationship between news releases and changes in the price of Miller Energy's securities, as well as Mr. Coffman's analysis of the autocorrelation of returns. A demonstration of a cause-and-effect relationship between releases of new information and changes in the price of securities is viewed as the most important evidence of market efficiency. Consistent with this view, the Corrected Coffman Report states that "[e]stablishing a causal

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[1] Expert Report of Chad Coffman, CFA dated March 15, 2019.
[2] See, for example, Deposition of Chad Coffman, CFA, April 12, 2019, pp. 230-231.
[3] Corrected Expert Report of Chad Coffman, CFA dated April 19, 2019.
[4] Expert Report of Dr. Mukarram Attari dated May 13, 2019.
[5] Expert Rebuttal Report of Chad Coffman, CFA dated June 14, 2019.

connection between new company-specific events and movements in the market price is convincing evidence of market efficiency."[6]

4. Mr. Coffman conducts an event study as part of his cause-and-effect analysis in evaluating the efficiency of the market for Miller Energy's securities in the Corrected Coffman Report. As I note in my report, the errors in the Corrected Coffman Report affect the input data to Mr. Coffman's event study, which impact the outputs and results of the event study. In addition, the abnormal returns, one of the outputs of the event study, are the input data for Mr. Coffman's autocorrelations analysis, which causes the results of the autocorrelation analysis to be affected as well.

5. I start by providing a summary of the errors in Mr. Coffman's analysis in the Corrected Coffman Report (which I note in the Attari Report) and Mr. Coffman's response to each of these errors. I then show that the errors had a widespread impact on Mr. Coffman's analysis using the output data in Mr. Coffman's backup material. The output data that I use is what Mr. Coffman described as the "spreadsheet that would be produced as a result of the event study."[7] I use the output data instead of the exhibits because, as I have noted above, Mr. Coffman has not provided a full set of exhibits correcting the errors in the Corrected Coffman Report. The lack of corrected versions of Exhibits 7, 9 and 11 of the Corrected Coffman Report is particularly problematic because Mr. Coffman notes that these exhibits contain the results of his cause-and-effect analysis in conjunction with Exhibits 8, 10 and 12 to the Corrected Coffman Report.[8]

6. The results of the event studies are summarized in Exhibits 5, 5-C, 5-D, 6, 6-C, 6-D, 7, 8, 9, 10, 11 and 12 of the Corrected Coffman Report. The accuracy of the results in these exhibits depends on the accuracy of the data used as inputs for the analysis. The input data and output data used in the event study analysis are in Mr. Coffman's backup material which include large excel files with data. For example, 'MillerEnergy-KPMG-CC-016014.xlsx,' sheet 'Regression CS', is the input data and output data for the event study for the common stock as reported in Corrected Coffman Report.[9] Mr. Coffman produced 'MillerEnergy-KPMG-CC-016014.xlsx' in order to

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[6] Corrected Coffman Report, p. 31.
[7] Deposition of Chad Coffman, April 25, 2019, p. 321.
[8] Corrected Coffman Report, paragraphs 59-61, and Deposition of Chad Coffman, CFA, April 12, 2019, page 128.
[9] Deposition of Chad Coffman, April 25, 2019, p. 320.

correct errors in Mr. Coffman's original report. Mr. Coffman produced similar backup spreadsheets for the Series C and Series D Preferred Stock.

7. I conclude that the results based on the event studies reported in the Coffman Corrected Report, as reflected in Exhibits 5, 5-C, 5-D, 6, 6-C, 6-D, 7, 8, 9, 10, 11, and 12 are not reliable. Mr. Coffman has conceded that virtually all of the data and calculations contained in 'MillerEnergy-KPMG-CC-016014.xlsx,' sheet 'Regression CS' (representing the event study for the common stock) and in the similar backup spreadsheets for the Series C and Series D Preferred Stock are incorrect.

8. While the Coffman Rebuttal Report tries to minimize the extent and significance of the errors, by his own admission, Mr. Coffman's errors in methodology caused virtually all of the critical figures and calculations in his event studies to be incorrect. For example, there are only eight unchanged values among 987 observations for 12 output variables in the file that includes the event study analysis for the common stock, 'MillerEnergy-KPMG-CC-016014.xlsx,' sheet 'Regression CS'.

9. The event studies for each of the three securities as reported in the Coffman Corrected Report are not reliable, and Mr. Coffman's opinion on the market efficiency of those securities is without scientific basis.

10. I cannot document the effects of Mr. Coffman's errors on the autocorrelation analysis because Mr. Coffman has not attempted to assess the impact of the errors on this analysis. The Coffman Rebuttal Report does not contain exhibits assessing the impact of his errors on the autocorrelation analysis, and Mr. Coffman's backup material for the Coffman Rebuttal Report does not contain any output data for any corrected autocorrelations analysis. Mr. Coffman's opinion that his estimates of autocorrelations support a finding of market efficiency continues to rely on Exhibits 17, 17-C and 17-D of the Corrected Coffman Report, all of which are impacted by errors in the input data he uses. Thus, the opinions flowing from Mr. Coffman's autocorrelation analysis are unsupported and unreliable.

11. In the course of preparing my report, I have been assisted by staff at CRA working under my direction and supervision. CRA is being compensated at an hourly rate of $990 for my work in this matter, and the compensation is not dependent on my opinions or the outcome of this matter. My work in this matter is ongoing, and I reserve the right to supplement or modify my

opinions to the extent new information comes to light subsequent to the date of this report. A complete list of additional documents that I have considered in forming my opinions in this report is attached as Appendix 1.

II.   The Errors in the Corrected Coffman Report and Mr. Coffman's Response

12. In the Attari Report, I note that "[t]he returns used by Mr. Coffman in his cause-and-effect analysis are incorrectly computed, affecting all of the results in Exhibits 5, 5-C, 5-D, 6, 6-C, 6-D, 7, 8, 9, 10, 11, 12, 17, 17-C and 17-D and Sections VII.F (pages 31-49) and VII.J (pages 54-56) of the Corrected Coffman Report."[10] There were four specific errors that I note in the Attari Report.[11] Mr. Coffman has conceded three of these errors and he does not directly address the fourth error.

A.   Error #1: The analysis in the Corrected Coffman Report is based on incorrectly computed returns for the Series C and Series D Preferred Stock

13. In the Attari Report, I note that the returns that Mr. Coffman uses in his analysis of the Series C and Series D Preferred Stock are incorrectly computed because they exclude the dividends paid by these shares. Mr. Coffman concedes that he intended to include dividends in computing returns and that his staff had "erroneously and inadvertently eliminated the dividend adjustment" in computing the returns for the Series C and Series D Preferred Stock.[12]

B.   Error #2: The analysis in the Corrected Coffman Report is not based on the NYMEX WTI Light Sweet Crude Oil Index that Mr. Coffman claims to use

14. In the Attari Report, I note that Mr. Coffman uses the ICE WTI Light Sweet Crude Oil Index in his analysis instead of the NYMEX WTI Light Sweet Crude Oil Index that he claims he is using. Mr.

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[10] Attari Report, Section IV.C.
[11] I did not conduct a comprehensive review of the analysis in the Corrected Coffman Report searching for errors (Attari Report, paragraph 21), and have not done so for the Coffman Rebuttal Report either.
[12] Coffman Rebuttal Report, paragraph 37 and footnote 83.

Coffman concedes that his use of the ICE WTI Light Sweet Crude Oil Index is an error that resulted from his staff "confusing one [index's ticker] for the other."[13]

C.   Error #3: The analysis in the Corrected Coffman Report is based on incorrectly computed returns for Mr. Coffman's Oil Price Index

15. In the Attari Report I note that Mr. Coffman has incorrectly computed returns on his Oil Price Index. Mr. Coffman does not directly address this error and instead claims that I am "argu[ing] that it was improper to rely on a third-party constructed price index to control for the price of oil because of the method by which the index was constructed."[14] Mr. Coffman's claim that I am criticizing his reliance on a price index constructed by a third party is incorrect. The relevant section of the Attari Report is very clearly titled "Mr. Coffman's 'Oil Price Index' return is incorrectly computed."[15]

16. Not every price index is designed for computing or can be used to compute returns (in this instance, the percentage change in price) simply by dividing the index level on a day by the level on the previous day. As I explain in the Attari Report, the futures contract whose price is used in the ICE and NYMEX WTI Light Sweet Crude Oil Futures Indexes changed periodically and the returns that Mr. Coffman purports to compute on those days are not returns at all. They are simply the percentage difference in the price between two **different** securities (in this instance, futures contracts with different maturities) across the two days.

D.   Error #4: The analysis in the Corrected Coffman Report incorrectly computes abnormal returns on October 20 and 21, 2011

17. In the Attari Report, I note that Mr. Coffman has incorrectly computed the abnormal returns for Miller Energy Common Stock on October 20 and 21, 2011, because he did not have returns on the Oil Price Index available on those days. In addition, Mr. Coffman incorrectly flagged these two days as having statistically significant returns. Mr. Coffman acknowledges the error in the Coffman Rebuttal Report, stating that "Dr. Attari correctly notes that the two days with missing

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[13] Coffman Rebuttal Report, footnote 89.
[14] Coffman Rebuttal Report, paragraph 44.
[15] Attari Report, Section IV.C.3.

abnormal returns were incorrectly treated as no news days with statistically significant abnormal returns."[16]

18. Mr. Coffman attempts to minimize the error in his computation of the abnormal returns and claims that I am "criticiz[ing] the method by which [Mr. Coffman] calculated an abnormal return on a single day [October 24, 2011] for Miller Energy Common Stock."[17] The explanation notwithstanding, Mr. Coffman appears to have made corrections to reverse the effect of this error in the backup materials produced with the Coffman Rebuttal Report.[18]

III.   The Impact of the Errors in the Corrected Coffman Report is Widespread

19. Mr. Coffman claims that the errors in the Corrected Coffman Report do not suggest that his analysis is unreliable because they do not "impact the ultimate conclusions or opinions that flow from that methodology."[19] However, Mr. Coffman's claim ignores the fact that the analysis and results presented in many of the exhibits in the Corrected Coffman Report is affected by the errors.

20. The Attari Report notes that Exhibits 5, 5-C, 5-D, 6, 6-C, 6-D, 7, 8, 9, 10, 11, 12, 17, 17-C and 17-D and Sections VII.F (pages 31-49) and VII.J (pages 54-56) of the Corrected Coffman Report are affected by the errors. Mr. Coffman has not provided corrected versions of these exhibits with the Coffman Rebuttal Report. The Coffman Rebuttal Report only contains a version of Exhibits 8, 10 and 12 of the Corrected Coffman Report that assesses the impact of the errors that Mr. Coffman concedes.[20] The Coffman Rebuttal Report does not contain corrected versions of

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[16] Coffman Rebuttal Report, footnote 24.
[17] Coffman Rebuttal Report, paragraph 10.
[18] See, for example, 'MillerEnergy-KPMG-CC-016014.xlsx' and 'MILL Event Study Results CS Dr. Attari's Return.xlsx.'
[19] Coffman Rebuttal Report, paragraph 36.
[20] The Coffman Rebuttal Report also contains versions of Exhibits 8, 10 and 12 of the Corrected Coffman Report that (i) correct only Error #1 (Coffman Rebuttal Report, Exhibits 4 and 5) and (ii) simultaneously correct Error #1 and Error #3, but do not correct Error #2 (Coffman Rebuttal Report, Exhibits 8, 9 and 10). Coffman Rebuttal Report, Exhibits 2 and 3 do not correct for any of the errors. In the interest of space, I do not address these exhibits because their purpose is unclear as Mr. Coffman has explicitly conceded Error #2.

Exhibits 5, 5-C, 5-D, 6, 6-C, 6-D, 7, 9, 11, 17, 17-C and 17-D even for the errors that Mr. Coffman concedes.

21. Given that Mr. Coffman has not corrected his event studies and has not provided revised exhibits reflecting any such corrected event studies in the Coffman Rebuttal Report, I have been asked to evaluate the output data in Mr. Coffman's backup material to assess the impact of Mr. Coffman's errors on the event studies that he has provided in the Corrected Coffman Report. I focus on the numeric output in the 'Regression CS', 'C' and 'D' sheets in Mr. Coffman's back up material to the Corrected Coffman Report.[21] I use the 'Regression CS' sheet because Mr. Coffman confirmed in his deposition that the "spreadsheet that would be produced as a result of the event study" and the output contained in the spreadsheet forms the basis for Exhibits 5, 6, 7 and 8 of the Corrected Coffman Report.[22] I use the 'C' and 'D' sheets because they contain the same set of information for the Series C and Series D Preferred Stock as the 'Regression CS' sheet contains for the common stock.[23]

A.   Miller Energy Common Stock.

22. The 'Regression CS' sheet contains the input data and the output that forms the basis for Exhibits 5, 6, 7 and 8 of Corrected Coffman Report. The input data and the output consist of daily observations for the period from August 29, 2011 to July 31, 2015. The input data includes returns on Miller Energy's Common Stock, the S&P500 Total Return Index and Mr. Coffman's Oil Price Index that are used in the event study analysis.[24]

23. The returns on the common stock, the S&P 500 Total Return Index and Mr. Coffman's Oil Price Index are used to estimate the coefficients and associated statistics for rolling event study regressions each day. The estimated regression coefficients and associated statistics are contained in columns J through Q of the 'Regression CS' sheet.[25] The information in columns K,

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[21] The sheets are in the file 'MillerEnergy-KPMG-CC-016014.xlsx.'
[22] Deposition of Chad Coffman, April 25, 2019, p. 321.
[23] The output contained in the 'C' spreadsheet forms the basis for Exhibits 5-C, 6-C, 9 and 10 of the Corrected Coffman Report. The output contained in the 'D' spreadsheet forms the basis for Exhibits 5-D, 6-D, 11 and 12 of the Corrected Coffman Report.
[24] The other input data in the 'Regression CS' sheet are not directly used in the event study analysis. These include the price per share, the number of shares traded each day, the number of shares outstanding, the market capitalization and the short interest for Miller Energy's Common Stock. The input data is contained in columns A through I of the 'Regression CS' sheet.
[25] Column Q reports a count of the number of observations used in the rolling regression each day.

M and O in the 'Regression CS' sheet form the basis of Exhibits 5 and 6 of the Corrected Coffman Report. The estimated regression coefficients are used to compute the expected return each day, which is included in column R of the 'Regression CS' sheet. The abnormal return, which is the difference between the actual return and the expected return, and statistics comparing the abnormal return to zero each day, are reported in columns S through V.[26] The information in columns R through V of the 'Regression CS' sheet form the basis for Exhibits 7 and 8 of the Corrected Coffman Report. The daily abnormal return in column S is also the input data for Mr. Coffman's autocorrelation analysis, the results of which are contained in Exhibit 17 of the Corrected Coffman Report.

24. I compare the values of the output variables for the Corrected Coffman Report in the 'Regression CS' sheet to those for the Coffman Rebuttal Report in the 'reg ret_SPTR ret_NYMEX' sheet.[27] I understand the 'reg ret_SPTR ret_NYMEX' sheet includes the input data and the output that forms the basis for Exhibit 1 of the Coffman Rebuttal Report. Both sheets contain the same set of variables arranged in the same order and both contain data for the 987 days from August 29, 2011 to July 31, 2015.[28] The only output variable whose value is somewhat unchanged is the one that reports the count of the number of observations used in the rolling regression each day.[29] There are only 8 unchanged values from a total of 11,844 output values created by Mr. Coffman's event study analysis of the Miller Energy Common Stock.[30]

B.   Miller Energy Series C Preferred Stock

25. The 'C' sheet contains the input data and the output that forms the basis for Exhibits 5-C, 6-C, 9 and 10 of Corrected Coffman Report. The input data and the output consist of daily observations for the period from October 8, 2012 to July 31, 2015. The input data includes

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[26] The last column, column W, contains a non-numeric categorical variable indicating whether the probability value associated with the abnormal return is in the middle 90% of the distribution or in either tail.

[27] The 'reg ret_SPTR ret_NYMEX' sheet is in the 'MILL Event Study Results NYMEX.xlsx' file which was part of the backup material to the Coffman Rebuttal Report.

[28] The 'reg ret_SPTR ret_NYMEX' sheet includes data for one additional day, August 26, 2011.

[29] Even for this output variable, there are changes for 121 of the 987 days.

[30] The 11,844 output values are the product of 12 variables on 987 days.

returns on Miller Energy's Series C Preferred Stock, the S&P500 Total Return Index, and Mr. Coffman's Oil Price Index that are used in the event study analysis.[31]

26. The returns on the Series C Preferred Stock, the S&P 500 Total Return Index, and Mr. Coffman's Oil Price Index are used to estimate the coefficients and associated statistics for the two event study regressions. The estimated regression coefficients and associated statistics are contained in columns G through M of the 'C' sheet. The information in columns H, J and L of the 'C' sheet form the basis of Exhibits 5-C and 6-C of the Corrected Coffman Report. The estimated regression coefficients are used to compute the expected return each day which is included in column N of the 'C' sheet. The abnormal return, which is the difference between the actual return and the expected return, and statistics comparing the abnormal return to zero each day are reported in columns O through R of the 'C' sheet.[32] The information in columns N through R of the 'C' sheet form the basis for Exhibits 9 and 10 of the Corrected Coffman Report. The daily abnormal return in column P is also the input data for Mr. Coffman's autocorrelation analysis, the results of which are contained in Exhibit 17-C of the Corrected Coffman Report.

27. I compare the values of the output variables for the Corrected Coffman Report in the 'C' sheet to those for the Coffman Rebuttal Report in the 'C' sheet of the 'Compiled MILL Preferred Dividend Adjusted NYMEX.xlsx' file, which I understand includes the input data and the output that forms the basis for Exhibit 6 of the Coffman Rebuttal Report. Both sheets contain the same set of variables arranged in the same order and both contain data for the 707 days from October 8, 2012 to July 31, 2015. There are only 5 unchanged values from a total of 3,543 output values created by Mr. Coffman's event study analysis of the Miller Energy Series C Preferred Stock.[33]

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[31] The other input data in the 'C' sheet are not directly used in the event study analysis. These include the price per share and the number of shares traded each day for Miller Energy's Series C Preferred Stock. The input data is contained in columns A through F of the 'C' sheet.

[32] The last column, column S, contains a non-numeric categorical variable indicating whether the probability value associated with the abnormal return is in the middle 90% of the distribution or in either tail.

[33] 3,543 output values is the sum of (i) 14 estimated regression coefficients and associated statistics (seven for each of the two fixed regressions); and (ii) 3,529 output values for the five variables associated with the abnormal returns times the 706 days. The count does not include the five empty values associated with October 8, 2012 and one empty value associated with October 15, 2014.

C.   Miller Energy Series D Preferred Stock

28. The 'D' sheet contains the input data and the output that forms the basis for Exhibits 5-D, 6-D, 11 and 12 of Corrected Coffman Report. The input data and the output consists of daily observations for the period from October 1, 2013 to July 31, 2015. The input data includes returns on Miller Energy's Series D Preferred Stock, the S&P500 Total Return Index, and Mr. Coffman's Oil Price Index that are used in the event study analysis.[34]

29. The returns on the Series D Preferred Stock, the S&P 500 Total Return Index, and Mr. Coffman's Oil Price Index are used to estimate the coefficients and associated statistics for the two event study regressions. The estimated regression coefficients and associated statistics are contained in columns G through M of the 'D' sheet. The information in columns H, J and L of the 'D' sheet form the basis of Exhibits 5-D and 6-D of the Corrected Coffman Report. The estimated regression coefficients are used to compute the expected return each day which is included in column N of the 'D' sheet. The abnormal return, which is the difference between the actual return and the expected return, and statistics comparing the abnormal return to zero each day are reported in columns O through R of the 'D' sheet.[35] The information in columns N through R of the 'D' sheet forms the basis for Exhibits 11 and 12 of the Corrected Coffman Report. The daily abnormal return in column P is also the input data for Mr. Coffman's autocorrelation analysis, the results of which are contained in Exhibit 17-D of the Corrected Coffman Report.

30. I compare the values of the output variables for the Corrected Coffman Report in the 'D' sheet to those for the Coffman Rebuttal Report in the 'D' sheet of the 'Compiled MILL Preferred Dividend Adjusted NYMEX.xlsx' file which I understand includes the input data and the output that forms the basis for Exhibit 7 of the Coffman Rebuttal Report. Both sheets contain the same set of variables arranged in the same order and both contain data for the 461 days from October

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[34] The other input data in the 'D' sheet are not directly used in the event study analysis. These include the price per share and the number of shares traded each day for Miller Energy's Series D Preferred Stock. The input data is contained in columns A through F of the 'D' sheet.

[35] The last column, column S, contains a non-numeric categorical variable indicating whether the probability value associated with the abnormal return is in the middle 90% of the distribution or in either tail.

1, 2013 to July 31, 2015. There are only 5 unchanged values from a total of 2,313 output values created by Mr. Coffman's event study analysis of the Miller Energy Series D Preferred Stock.[36]

31. Exhibits 17, 17-C or 17-D of the Corrected Coffman Report contain the results of Mr. Coffman's autocorrelation analysis. The Coffman Rebuttal Report does not contain a corrected version of these exhibits. The backup material to the Coffman Rebuttal Report that Mr. Coffman has provided does not contain programs or output data files for the autocorrelation analysis. This indicates that Mr. Coffman has not attempted to correct the autocorrelation analysis.

Submitted this 19th day of July, 2019.

Dr. Mukarram Attari,

Vice President, Co-Practice Leader of Finance Practice,

Charles River Associates

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[36] 2,313 output values is the sum of (i) 14 estimated regression coefficients and associated statistics (seven for each of the two fixed regressions); and (ii) 2,299 output values for the five variables associated with the abnormal returns times the 460 days. The count does not include the five empty values associated with October 1, 2013 and one empty value associated with October 15, 2014.

Appendix 1 – Additional Documents Considered

<u>Case Documents</u>

Expert Report of Dr. Mukarram Attari dated May 13, 2019.
Expert Rebuttal Report of Chad Coffman, CFA dated June 14, 2019.

<u>Coffman Rebuttal Report Backup Production</u>

MILL Event Study Results NYMEX.xlsx
Compiled MILL Preferred Dividend Adjusted NYMEX.xlsx
MILL Event Study Results CS Dr.Attaris Return.xlsx